

**UNITED STATES DEPARTMENT OF THE INTERIOR
National Satellite Land Remote Sensing Data Archive
Advisory Committee Meeting**

**Minutes of the
Second Meeting of 2-Year Charter (2001-2003)
Department of the Interior
Washington, D.C.
October 24-26, 2001**

Committee Membership

Academia

Laboratory researcher-data user:	Dr. Samuel Goward, University of Maryland
Classroom educator-data user:	Dr. Gerald Nelson, University of Illinois

Government

Federal data user:	Dr. Brad Doorn, USDA/Foreign Agr. Service
Federal data user:	Mr. Darrel Williams, Landsat Scientist, NASA/GSFC
State/Local data user:	Ms. Amelia Budge, Univ. New Mexico, EDAC
State/Local data user:	Dr. Hugh Bender, Texas Nat'l. Res. Info. Service

Industry

Data management technologist:	Dr. John S. MacDonald, Chairman, MacDonald-Dettwiler (Retired)
Licensed data provider:	Mr. Herb Satterlee, President EarthWatch
Value-added or other data provider:	Mr. Bob Winokur, President EarthSat
End user:	Mr. Rick Crowsey, Crowsey Inc.

Other

Non-affiliated individual at-large:	Prof. Joanne Gabrynowicz, UMS/Nat'l. Remote Sensing and Space Law Center
Non-government organization:	Mr. Jim Frelk, ECS
International non-U.S. representative:	Dr. Edryd Shaw, Director General, CCRS (Retired)
At-large from any sector:	Ms. Kass Green, President, Space Imaging Services
At-large from any sector:	Mr. Daniel Dubno, CBS News

Ex-Officio

Long-Term Archive	Mr. John Faundeen
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Committee Federal Officer

Mr. Thomas Holm, USGS/EROS Data Center
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Record of Committee Meeting Attendance

October 24-26, 2001

Present:

Dr. Hugh Bender
Ms. Amelia Budge
Mr. Rick Crowsey
Dr. Brad Doorn
Mr. Daniel Dubno
Mr. James Frelk
Prof. Joanne Gabrynowicz
Dr. Samuel Goward*
Ms. Kass Green
Mr. Thomas Holm
Dr. Gerald Nelson
Mr. Herb Satterlee
Dr. Edryd Shaw
Dr. Darrel Williams
Mr. Robert Winokur

Absent:

Dr. John S. MacDonald

*via telecon

March 28-30, 2001

Present:

Ms. Amelia Budge
Dr. Kenneth Davidson
Dr. Brad Doorn
Prof. Joanne Gabrynowicz
Dr. Samuel Goward
Ms. Kass Green
Mr. Doug Hall
Mr. Joseph Harroun
Mr. Thomas Holm
Dr. John S. MacDonald
Dr. Gerald Nelson
Dr. Edryd Shaw
Ms. Karen Siderelis

Absent:

Dr. Hugh Bender
Mr. Herb Satterlee
Mr. Darrel Williams

Day 1 - Wednesday, October 24, 2001

Welcome

Thomas Holm, Chief, Data Services Branch, EROS Data Center (EDC), U.S. Geological Survey opened the meeting and welcomed everyone to the Department of the Interior. Tom noted that the meeting is open to the public. We have 2 meetings left, maybe 3 under our current contract. We have been working on the archive advisory process since the first workshop in 1996. This is the first time we have had more new members than old ones. We have set up a place on the web only Archive Advisory Committee (AAC) members can access to help with communication on white papers and other items.

Tom announced that John Faundeen has been named the Chief Archivist at EDC.

Review

Joanne Gabrynowicz, co-chair, reviewed the binder information and the Charter. When talking about the Archive, we are talking about the long-term archive of data.

The AAC is a federally approved advisory committee. The law gives the responsibility to the Secretary of the Interior. Any advise the Committee has needs to go back to the Secretary. Every decision of the Committee is made by consensus. With the exception of 1 vote, all previous Committee votes have been unanimous.

Members introduced themselves. Also at the meeting were Larry Pettinger, USGS, Reston, works with the licensing of commercial companies with NOAA, and Bob Downs, CIESEN, Columbia University, Palisades, NY.

General Discussion

Agenda Items with subgroup reports:

1. Data Sieve
2. Collect Best Available Data
3. Metadata Archive
4. Outreach
5. Greater Distribution

“COFUR” – Cost of Fulfilling a User Request will also be discussed.

ACTION ITEMS

(from March 28-30,2001 Meeting)

ACTION: Davidson/Holm – Consider NOAA USGS relationship for coastal zone data.
(Completed)

Are there duplicates at other data centers? Thomas Holm and John Faundeen met with Ken Davidson and set up reciprocal archives. Data has been sent to NOAA NCDC to satisfy the requirements that the NSLRSDA be off-campus. We have not taken a good hard look at the duplication of efforts. We have annual meetings with the World Data Center and we have an idea of what the international centers have. There is no specific impact on the National Archive but it is a great opportunity to meet with colleagues with the same areas of interest.

EDC is a member of the international Committee on Earth Observation Systems (CEOS).

Coastal zone data? The National Archive deals with land data. Should there be a reference to the coastal data? NOAA covers atmospheric data. AVHRR in NSLRSDA is used for land applications. Can we limit resources to just land if we are going to look into the future 100 years? Information needs to be easy to use but we need to stay within the charter. Do we have to say there is a “void?” The original discussion wasn’t on coastal data but a discussion of archives. John Faundeen is responsible for establishing a backup archive. After the 9/11 disasters it became apparent that EDC needed to duplicate their data and place it elsewhere. EDC’s data is a living archive since it is a library for accession information.

ACTION – Report on SRTM data policy – T. Holm and J. Boyd will have it written up.
(Completed)

SRTM information is provided with the reference material behind Tab 7.

ACTION: NIMA representative on the Committee – Tom Hennig 301-227-3046.
Joanne will contact Mr. Hennig. **(Open)**

We were unsuccessful in getting Mr. Hennig on the Committee. We should continue to pursue a NIMA representative on the Committee as an Ex-Officio member.

ACTION: T. Holm mock up some sample products. **(Open)** - (From Meeting Minutes: USGS logo and tag line – NATIONAL ARCHIVE- Preserving data for the future – present at next AAC meeting. Compare use of NSLRSDA name and identity on USGS materials.)

When you get products out of the National Archive, you don’t know that you get information out of the Archive – you get data from the “USGS.” The fact that the data

comes from the National Archive is contrary to USGS policy. Thomas Holm showed a CD that was labeled from the “National Archive.” It should be labeled “National Satellite Land Remote Sensing Data Archive” versus National Archive.

In April 2002, the ASPRS will have a session on Data Preservation and Archives. We have a number for a special session. At this session we want to extend awareness and hear views from the industry. We want to talk about what we are doing and give a perspective view on what makes it meaningful. Thomas Holm will contact individuals to help with this session, i.e., Jack Dangerman, Francis Breatherton, etc.

Barb Ryan, Associate Director for Mapping, joined the AAC meeting. Joanne very briefly presented the background of the AAC. Anticipated growth of the Archive has been described as exponential. What we really have is a wall of data coming at us. The type of data we will have to deal with will be discussed more later. NASA is in the process of changing their policy on free data to having a marginal charge for data.

The advice of the Committee was to get a full time archivist on the Committee. John Faundeen will be devoted full time to Archive issues and will report regularly to the Committee on the Archive.

Committee members were disappointed that we have not heard from the higher ups on the Committee recommendations. **ACTION: Report on what EDC has done with the advice from the Committee. ACTION: Distribute EDC draft Data Access and Delivery Policy report.**

Landsat 7 and data going to the Archive were discussed. Recommendation on 3-year old data to the Archive came from the Committee. This was an effort to give the private sector an opportunity to offer value added data. Classified material was not discussed. Will classified data become available at some point? **ACTION: Future agenda item on when classified data will get into the Archive.** Copyright issue – it is important to know where data came from. No matter how old material or data is users want to know where the data came from.

Barb Ryan's Presentation

Welcome everyone to the Committee. The USGS and Geography Discipline are taking an end-to-end view of the industry and focusing on science lines. We are trying to make things more easily understood by Congress.

Member comment: Need to let Congress know where emergency response and disaster data falls. The USGS could cleanly and clearly step up to this program.

The Geography Discipline's Science Programs are: Land Remote Sensing, Cooperative Topographic Mapping, and Geographic Analysis and Monitoring). We are looking for data continuity, public/private sector partnerships, pricing policies, and

working toward the National Map to bring Topo maps from the 20th to the 21st century.

Landsat Remote Sensing imagery should be a layer of the National Map. How do we evaluate the data from a mission standpoint? The USGS has a mission responsibility for mapping within the United States. Outside of the US work would be done through reimbursable agreements.

The USGS and NIMA and the Homeland Security have signed a letter of intent for Geospatial integrity within the United States. We will have first right of refusal. A NIMA/USGS partnership will be established. NIMA recognizes that the first responders need to have access to the data.

Committee Comment: Someone other than NIMA should be responsible for data outside of the United States for distribution within the United States.

Landsat Briefing to Congress: Message to Congress was that Landsat data isn't good for site-specific studies. Middle resolution imagery is needed and no one is stepping up and taking responsibility for this data. We are trying to propose that this be done by the USGS as NOAA does oceans and weather. The combination of Landsat 5 and 7 is very powerful for data continuity. We encourage people to go to local ground stations before coming to the USGS for data for coverage of non-U.S. areas. We need to build effective continuity with the private sector.

Ultimate goal is to get medium resolution data out. There are internal constraints for USGS. We need to go to Congress for money so that we can give data away or for a minimal charge of \$50. Get the cost reduced. This is not a money issue but a contribution issue.

Comment: Cost for data can go down if we look at bulk use and not one scene at a time.

The Landsat data continuity RFP will be coming out soon. We will look at the response from the private sector. Infrastructure includes receiving data and getting it out the door. We are dealing scene by scene. We need to get seamless and continuous coverage.

Data Grant Subgroup Discussion

USGS several years ago had a small data grant. To get a grant it has to go to the Federal Register, accept bids, etc. If we have a grant we want to focus on archived data. Why are we spending the money to preserve the data? We are targeting \$500K that couldn't be done in FY 2001. We will probably not make it for Pecora 2002, which is in November. There will be many opportunities and we are looking at a team to participate in the selection of the grant recipients. The grant can be limited to USGS archived data and the private sector to help with the current data. But we don't want people who just want free data.

ACTION: Report on the funding process for the data grant.

Is there any way to get the synergy behind the new world outlook and add it into something more relevant? We need to have relevance that can be put into the Federal Register wording.

ACTION: For data grant, define wording for the Federal Register.

If we are talking about new users, they may not know what they want to do. It would make more sense to partner with private industry. People that we are targeting for the grant need and want derived products. **ACTION: Look at other areas and items for data grant and continue subgroup meetings.**

We have a technology adoption problem not a dollar problem. Realize that we have constraints and things that cannot be done. Focus on agriculture problems and a chance to work with USDA.

Data Grant Subgroup: Green, Gabrynowicz, Crowsey, Holm, and Faundeen.

Can some of these things be accomplished through AmericaView? Look at groups who can use the technology but don't know they can. You have to be very proactive to get this done. Is this an outreach effort? **ACTION: Check on contact at AmericaView and report to data grant subgroup.**

Outreach Subgroup Discussions

Would like to frame questions around who our customers are. We don't do a lot of outreach because of budget constraints.

Need advice on where to go with what we have. Focus dollars on where you can make the most difference. Get a hold of issues that will make Congress take notice.

USGS reorganization has trickled down to EDC and effective October 1, a formal communications and outreach team was formed. We now have the ability to do more.

We need to know what the needs are for the people we want to reach.

1. Projects that should be available to every journalist and State government is a data set of the hurricane area (Mitch).
2. Agriculture needs a data set that shows areas of vulnerability in the U.S. to chemical and biocontamination.

How should data be made available? Need to look at what people need and target the data to that need. We should focus and pick 3 to 4 things that will be most effective and can be worked on.

The motivation behind the outreach program is not to sell data it is to get to the private data at the lowest cost or free. USGS is a science organization and what we want to do is market the relevance of the data. Target a younger group that will be here for generations. With strategic mapping you can create data but you also have to market it. We have a product that is visual and necessary.

ACTION: Look at the outreach list and decide what EDC can do and what it cannot do and report back to the Committee.

ACTION: Email AAC members with request to forward outreach opportunities.

Data Sieve Subgroup Discussion

Subgroup members: Goward, Gabrynowicz, Davidson, Shaw, Holm, Faundeen

The data sieve needs to be taken one step further.

The EROS Data Center established an internal team (science, DAAC, archive, information, production members) to put together a process for handling the wave of data coming. This was the Data and Archive Review Team (DART). It took 5 months of work for the DART to understand the process of what they were looking at, i.e., what is scientifically relevant, volume of data, metadata, distribution, political relevance, annual budget, funding, spatial, temporal, span, risk of loss, and deadline to decide.

ACTION: Copy of DART slides and spreadsheet to AAC members.

DART looked at the list of remote sensing data at risk of loss. Brazil is a possible loss and India has announced a purge. Looked at what is at the EDC, what is in the world, and future missions?

Now that we have briefed the Committee on the DART and its recommendations, does the Committee agree with the plan? Should it be changed? Added to? The DART is just EDC staff.

For the data sieve what is the minimum requirement for the Archive? Should the question be not what is the minimum requirement, because technology will allow us to keep it all, but is it timely and readily accessible to users requesting the data? For some of the data there has already been a selection process made (AVIRIS) where data is only captured at certain times.

Plans of archiving are that there will be purges and the most difficult decision is deciding what will be purged. Politically it is not possible to save everything for everyone. Levels of data are those things that are on line and have a fixed point in time. Are there reasons to keep subsets of data, i.e., 9/11, floods, other disasters? This is something that we need to consider.

CCRS archives everything with Radarsat. With other data CCRS is doing landmass of Canada every year. Do not archive outside of the summer scenes. When upgrades are done (every 10 years) for media, a conservative amount of cloud cover data will be purged.

In the original archive policy there is the suggestion that there should be scientific and user community input on the archive and in particular on new data sets.

What about data being archived that we cannot make a digital copy of? How long do you hang on to data that is unreadable but with millions of dollars we could make the data available?

The Committee can help provide answers for some of the tough decisions. Create a better data set so you have a better archive for users. To accept data we have a 5-page work sheet to get to acceptability of data. WBVT provides a good example of why decisions need to be made up front about what is worth preservation. You can ask the Committee if there are things you add to or subtract from the list. What about archiving in other countries? What about internal to the data set? Need to look at more of a corporate management of the archive. It might be easier to save big chunks of data than spend the dollars to select and save scenes.

Landsat 7 – if we move the data is it going to come enmasse? Are we going to keep everything? The Committee advice from the first 2 years was to accept everything. Science didn't want to lose anything. Now, if we have to purge data, we have to go outside the walls to get advice on what to do with the data. Commercial companies (Digital Globe, Space Imaging) cannot purge data without alerting the USGS. You can get the data with dollars. What if the Archive was not in a position to accept it? In 100 years are scientists going to be interested? There has to be a plan or system priority. It is very hard to say that cloud covered data isn't valuable. With the browse capability the cloud cover could be done with jpeg imagery.

Subgroup talked about the basic data set.

Day 2 - Thursday, October 25, 2001

Discussions started with a presentation by Sam Goward (via telecon) and John Faundeen on the Data Sieve Subgroup. Goal of the subgroup is to assist the USGS EDC in developing a rationale land remote sensing data preservation scheme. Objective is to meet the need of U.S. goals in global change research through preservation of valuable remote sensing data sets. Funding is a constant challenge for the NSLRSDA.

Projected data volume was done for the 1997 "Bits of Power" book. **ACTION:**
Compare "Bits of Power" with EDC numbers from 1997 to 2005. When EDC

updates the chart they will include all of what is at EDC (MODIS, ASTER, Landsat 7, etc.).

The advice of the Committee in the first 2 years was that everything in the Archive must be saved. What is expected today may be somewhat different.

It is expensive to go through data and identify cloud cover unless the data was accurately assessed before hand. To go in and do a selection, we have to read the entire swath. It is easier to do a mass delete.

Bromley Principles – there are already a number of organizations that are using the archiving principles. The former director of the USGS chaired the group that came up with the Bromley principles. These should be examined by EDC for relevance.

CCRS collects Landsat scenes from the growing season, 3/31 to 10/31, each year. Scenes are extracted that will provide a composite for distribution by the Canadian National Atlas (distributed free). It is equivalent to FGDC. All Radarsat is kept, however, cloud cover scenes are culled when data is migrated to a modern media. The ground stations do have a backup but not of everything. Would it be feasible to have CCRS act as a backup for each other's data? **ACTION: Radarsat acquisition plan to AAC members.**

EDC currently has a small reciprocal offsite archive agreement with NOAA NDGC in Asheville, North Carolina.

RECOMMENDATION: Encourage the subgroup's exploration of reciprocal archiving of Landsat and other relevant data sets with the CCRS and report back the pros and cons of the assessment. Unanimously accepted.

For all 50 States the USGS acquires all Landsat 7 imagery at all times. The one place with the LTA will have a weakness will be from the ground stations. The NSLRSDA needs to work with the international ground stations to obtain data that would fill our data gaps.

In November the Landsat ground stations are getting together (LGSOWG) and the AAC should make a presentation to them on the Archive. If so, we can work with Tracy Zeiler and Jay Feuquay. The meeting will be November 11-14 in Orlando, Florida. Darrel will contact Jay on whether the AAC can send a representative to the meeting.

The IGS Subgroup would like to have some way to methodically get to the data. There are a number of technical issues that need to be addressed. The FDGC/ISO interoperability framework exists to do this.

The increasing volumes of data are daunting. The question is how do the principles get developed to be used by the Archive and get widely known throughout the community.

Does EDC capture a one-time thumbnail sketch? This will be redone for Landsat 4 and 5 to be closer to Landsat 7. On Landsat 7 concentrate on those parts of the globe that are cloud covered and ask others to help us get the best data.

What information do we have about data gaps in the data? Plotting geographic data going through the Archive would be helpful. Faundeen is working on this, and we will be able to find the holes. The NSLRSDA is recommended to concentrate on Landsat data first.

First priority data acquisition planned for Landsat is emergency response. Declaration recently out of the United Nations focuses on emergency response. Second priority is production for sale and then into other modes for data collection. There is a great need to be able to sample available high-resolution data so that holes can be filled. The long-term archive plan (LTAP) is medium-resolution. Could it be expanded as a scheme for high-resolution?

The Data Sieve subgroup came up with some models. We should make those models available in electronic or hard form to the Committee members. Think about what parts have relevance to the Archive and send information to the subgroup that will look to see if information can be pulled out.

Multi-tiered archive needs to be a part of the discussion. Shouldn't the discussion be more on resolution? Different levels of resolution – it can be a part of the tiered criteria. There should be levels of access as well as levels of Archives.

ACTION: Capture information on the multi-tiered archive and discuss resolution (spectral, spatial, temporal, and radiometric).

ACTION: Review LTAP, CCRS plan and Bromley Policy. Review over the next 2 months and send suggestions to Goward.

RECOMMENDATION: With regard to archiving data from medium resolution non-U.S. satellite systems, it is recommended that NSLRSDA focus its time and energy on looking at imagery for areas of limited acquisition (including cloudy), and then ingest those images that would “fill” known holes in the TM/ETM+ archive. Unanimously passed.

As information from the commercial world is paired through FGDC means the Archive will be able to cross check available data. Search for IKONOS and earlier data. We have a couple of recommendations for action items.

FGDC Remote Sensing Imagery Task Force – FYI briefing by Brad Doorn.

NIMA put forward a proposal to OMB to become the Federal Government purchaser of commercial imagery. OMB/DOD went to civil agencies for money. FGDC was tasked

to address a number of questions in response to OMB/DOD. FGDC has the mandate and are looking at consolidating Federal positions. This is brand new. FGDC will be briefing at the Government Homeland Security head Thomas Ridge.

As this gathers a lot of momentum, the USGS needs to enter into a true partnership with NIMA that is very formal. The USGS Landsat Remote Sensing Program (LRSP) did take the lead within the civil community in partnership with NIMA to answer the needs of the civil agencies. Question is how willing would NIMA be to negotiate on our behalf. FGDC is looking for leadership, as they are not in the imagery world.

IGS Subgroup Meeting (Doorn, Holm, Faundeen)

Issue: Do we have critical ground station problems that need to be addressed rapidly? Will we be active enough so we don't lose data? Gaps – where, what are they? Preserving and rescuing the historical Landsat data archive in the U.S. and non-U.S. vs the archiving of new mission data and data transfers from other archives is the challenge.

Independent of the Archive we need to get a better picture of what is available out in the world and determine what needs or should be saved. Do people know where the problems are? We need to look at the IGS agreements to make sure they don't fall away. There were problems in the past. **ACTION: Provide a 1 to 2-page document on problems experienced with global data purchases (Landsat only).**

Working with CCRS, look at their inventory and resources. It will include access to browse (an option for the stations). There are a lot of records but they have not been shared. Most of these holdings are in the Archive (we may have produced some for projects). John Faundeen will provide regular reports to the subgroup and committee and will try to do geographic plots of holdings. Does it make sense to start with Landsat since we can get the footprint and identify the gaps? There is very little incentive on Landsat 1-5. We would like to be a storefront to the ground stations. Ground stations are not paying anywhere near what they paid in the past (\$600K then with no inflation and about \$200K now). 33% of Landsat 7 data is held at EDC, 67% of data is held by foreign ground stations: 1) U.S. owns the data, 2) U.S. needs to make the data available. There are different agreements for Landsat 7. What does the National Archive need? How are we going to fill the gaps? Not just for EDC but for historical reasons. How aggressive will/can the Archive be?

The most the Committee can do is to give the NSLRSDA "words" for Landsat 7. We have a lot of work to do to fix 27 years of neglect. EDC has limited resources, and a terabyte of data. How much of resources should go to historical vs. new? MSS data was completely captured in the 70's. Get as much TM data as you can. We need more information to make a decision.

Tiers of archives. We can make interim decisions. We have to archive but we don't

have to build access until a year or more has gone by. Political, technological, etc., may be reasons for not getting data. With Faundeen's list the AAC can give advice on what to do for all data, not just TM. Try to get agreement to get all of the Landsat 7 data represented and try to extend that to Landsat 1-5. We could do a gap identification process.

RECOMMENDATION: To help the Archive prioritize acquisition of Landsat data not currently in the Archive, AAC advises the NSLRSDA to characterize the International Ground Stations and their Landsat holdings in terms of the political, cost and/or technical barriers to acquisition.

CCRS has agreed that they will store the Landsat 7 data for at least 10 year and then offer free archive storage for 10 year. You then need to decide which countries are trustworthy and which are not. At the end of 10 years we will have 10 years worth of data that is not compatible.

- (1) Identify TM and address tap issue.
- (2) Look at TM and gaps and related costs with ground stations.
- (3) Draft into a white paper (combine information from Space Imaging and Earthsat).

ACTION: Value of ground stations from international perspective.

ACTION: Draft declaration statement on value of ground stations for Archive.

NASA Pathfinder Data Sets (with Matthew Schwaller, NASA)

An attempt has been made to document a procedure to transfer NASA pathfinder data to the USGS. It is an organizational issue with NASA that the data products are shared. Levels of science develop on how they get the data and the cost. Pricing will be COFUR and NASA has more or less agreed. 30-60 day prior notice is given when there is a price change. USGS has done a great job of identifying the data sets. Cost will be an issue that has to be discussed. Legislatively, NASA can't recover costs (has to go to Treasury). So, there is no incentive to NASA to set the charges. Some issues with the transfer include:

- (1) Level of service – NASA on line vs. USGS offline.
- (2) Different archive media.
- (3) Transition from no- or lower-cost to COFUR.
- (4) Timetable differences.
- (5) Potential loss of data through inaction

USGS doesn't want to deal with SIR-C customer product data stored on 8mm data.

University of New Mexico hired a person at their computing center to determine data they should purge. Should this data be offered to the NSLRSDA or not? Is the

National Archive committed to the NSLRSDA data sets? ACTION: Provide presentation to the LPDAAC Science Advisory Panel (SAP) on the NASA Version O Data Sets slated for transfer to the USGS LTA. Provide AAC with a report on reaction of the SAP to the presentation.

There may be general policies that we may want to establish, i.e., all lower level data should be archived forever and decide on the derivative data another way. ACTION: Provide the date of the next LPDAAC Science Advisory Panel meeting to AAC.

The AAC has a subgroup that is looking at the sieving of data and tiers of archive and data gaps and the data sets. **ACTION: Information letter to the LPDAAC Science Advisory Panel concerning data sieve subgroup activities.**

Data Migration

Discussed data migration for NSLRSDA data sets, what is on hand and what we have planned. Currently there are 3 data migrations that are operational: TMACS, WBVT, and SPOT.

TMACS conversion should be completed in August 2002. WBVT – generally this has been a big success. Should be completed in September 2002. Those that don't have metadata are called orphans. We want to get it off the media it is on then we will work on modeling for identification of the orphans. SPOT conversion will be completed December 2001. TMACS has 1 copy only. WBVT and SPOT were designed for a dual output – working and offsite copy. We will need additional copies to be offsite. Funding is a problem. Currently, the data going to NOAA NCDG is data that we will never have to pull.

Where are we going...conversion of TMACS II (Landsat 1-5, MSS & TM transcription called LACS) is to be completed in 2004. Two copies will cost a few hundred thousand and their footprint will be smaller than 10 cu. ft. We have to keep the old data until the conversion is completed and verified.

The Committee recognizes and supports the data migration process in place and encourages the Archive to continue in that direction. All were in favor.

Anticipated New Data Sets

Future data sets: SRTM, Declass II, NASA Pathfinder, and Landsat 7.

SRTM – NASA and NIMA will agree on what is a deliverable product. MOU's are in place with NIMA/NASA and NASA/USGS. **ACTION: All of AAC read the restricted data access paper. Draft a statement for the Committee about access.**

Declass II – NIMA contracted with Kodak to copy the next group of imagery to be

declassified. There are 2,300 rolls of up to 100 ft long frames, mostly B/W film. We will

not digitize the photography for products because of the cost. We have done two studies that show it isn't cost effective to scan all the frames.

NASA Pathfinders

New data sets include:

- Global Land Cover Characteristics
- GTOPO30
- NASA Landsat Data Collection – MSS
- NASA Landsat Data Collection – TM
- North American Landscape Characterization
- Global Land 1-KM AVHRR – ½ Orbits & Composites
- Airborne Imagery – TMS, NS001, TMS, MASTER, ASAS
- Global Land Cover Test Sites – MSS & TM
- SIR-C

Landsat 7 – Over 200,000 full scenes to date. July 2002 equals 3 years since first available.

Data Pricing Policy

Costs of getting data out of the Archive is considered reimbursable. USGS is required every year to do a cost recovery analysis that goes to the Department of the Interior. The EDC operating budget is \$54m, \$6m for production activities. In FY 2001 the total production was \$20m, Landsat 7 was \$9.6m and Landsat archive \$1.5m. The guiding policy for pricing was A130. **ACTION: Copy of Executive Summary on Data Pricing Policy with copy of slides to AAC members. ACTION: Find where USGS data policy (70 pages) is located.**

USGS and others define COFUR differently. Government is not supposed to compete with the private sector (Satterlee will find the law). There are many changes because of copyrights, etc. The AAC believes COFUR is a pricing policy for yesterday. Is the industry changing enough that the current policy still makes sense? Should the Government be doing this or should it be outsourced? AAC needs to come up with something that allows people to operate and function.

Comment: As a customer of imagery and user of imagery we should not hamstring the ability to use Landsat 7 to make imagery more feasible. Stopping the flow of progress and good imagery is not acceptable. This comes down to a cost benefit analysis for the people. Trying to recover the cost of operating a system is doomed to failure. What is wrong is that we are not using the observations that we get because we don't get enough data out there. There is an opportunity to give this stuff away. Commercial firms need to come down with their prices and it would be easier. How do we get there?

Comment: Now that Space Imaging is out of Landsat 5 data, Landsat data should be free. Technology may pass over all of what we are talking about. We should consider the airborne perspective. Data available should be raw data. Information markets are hard to regulate. Barriers have to do with technology and not cost. CCRS policy is to go with the raw data. Imagery like Landsat makes the private sector imagery valuable. We should not hold up on old data. To add information to the areas, to get out as much data as possible so the people can't live without us. What is important is the information not the cost. State governments are trying to produce the user base by using Landsat data that is more affordable because once they see what the data can do they will then order the more expensive products.

There are a number of ways to access data at EDC: Earth Explorer, Web mapping, global visualization. There are 8 data sets in the National Map. We need to move forward to being able to get a Landsat 7 national seamless data, ortho corrected in a GIS format. We are looking at a business model that will help the customer get the information they need from the private sector. We hope to have this model updated every 16 days. The National Map right now is our first priority but we need to have global data sets available and readily accessible. Having a global set is extremely important. The U.S. is in a global role. USGS has to think about their mandate and maybe the State Department and other agencies should get involved. The Landsat global data set is Earthsat's contract with NASA and will be archived at EDC. There are a lot of layers of data out there and they are available. Working on the National Map we are data mining the lower layers.

Day 3 – Friday, October 26, 2001

Reviewed the morning agenda.

John Faundeen will do a quick presentation on: Retention and Lifecycle recommendations, Skylab/Gemini/Apollo, Shuttle hand-held/LFC, and Collection Management.

We will then wrap up action items, assignments, recommendations made, and any suggestions regarding this meeting.

On the sample CD Thomas Holm passed around, the words National Archive need to be replaced with "National Satellite Land Remote Sensing Data Archive."

Retention and Life Cycle Recommendations

Archive is poised to take a lot of data. Any guidelines on life cycle should be based on a scientific basis. Can the Data Sieve help? Everything now is grandfathered in. RBV as an example – 150,000 tapes that cannot be read. No processing system can read them. Imagery was offered to NARA. Data has been sent to the NOAA facility in North Carolina. Any solution to reading this data would take many years and millions of

dollars. Subgroup to tackle this question and come back with suggestions. **ACTION: Retention and Life Cycle Subgroup: Satterlee, Frelk, Winokur. Faundeen will prepare material on RBV and send to the subgroup members.**

Skylab, Gemini, Apollo, Shuttle, LFC

Should these be a part of the NSLRSDA? Skylab – 50K frames; Gemini – 2,500 frames; Apollo – 13+K frames; Shuttle - 300K frames; LFC – 2K frames. NASA Stennis has an extensive collection of images of the Earth that were digitized.

New Mexico (Amy) office has a duplicate set of film in this category. It is available to customers. There are some that we do not have and got the original film from JSC. **ACTION: Human Space Flight Subgroup: Bender, Chair; Budge; Green; and Dubno. Subgroup will check with JSC and see if they are the primary contractor and if the data is accessible. Contact is Glenn Swanson. This topic should be part of the sieve. This subgroup can report to the data sieve subgroup.**

Collection Management

The CD in you notebooks contains an overview of the Center, a set of archiving data management instructions, Data and Archive Review Team decision tools, SOPs on how we manage the data, receipt and preservation of the NSLRSDA. The documents will be released internally and externally. Any procedures and comments will be accepted.

The Federal Government has been required to do the Continuity of Operations Plan. It is now a critical piece of what we need to be doing. **ACTION: Information briefing on Y2K plan and Continuity of Operations Plan.** Share concerns and places where there are weaknesses. The Navy, NOAA, and Air Force have a shared resource. Might want to look it. **ACTION: Copy of Shared Resources Document Plan between the Navy, NOAA, and Air Force.**

Mold may become a media problem. U.S. isn't the only one with the problem. Germany also has experienced the problem. We are quarantining some suspected data to control this. Work is going through UNEP to help preserve data that we do on an "as time available" basis. CD material can also break down, some as soon as 3 to 5 years. John Faundeen will continue to bring this up and will continue working the problem. **ACTION: Provide results of media trade study.**

Next Meeting Suggestions

Merge IGS Subgroup with the Data Sieve subgroup after current actions are completed.

Data Grants and Outreach Subgroups will consider coming together. Outreach – consolidate a realistic list.

Committee Recommendations – Thomas Holm will report back on what is done on the recommendations.

The USDA has been discussing affiliated archives concept. “Food security” is the driving issue. and need help with the archive. **ACTION: The Committee supports the concept for the affiliated archive for food security and should as a Committee send a letter. Include a statement of careful consideration.**

Holm will report back to the Committee on the draft policy that was updated last year.

If meeting is in DC we need to consider getting other agencies, NOAA, FS, NIMA, FEMA, and others with related activities. Next meeting in DC needs to include Groat.
ACTION: USGS to coordinate interagency briefings on AAC.

NEXT MEETING WILL BE AT THE EROS DATA CENTER MAY 1-3, 2002

**Archive Advisory Committee Meeting
October 24-26, 2001**

Action Items

1. Report on what EDC has done with the advice from the Committee. (May meeting. **Holm/Faundeen**)
2. Distribute EDC draft Data Access and Delivery Policy report. (October 1, Holm) - **Completed**
3. Future agenda item on when classified data will get into the Archive. Note: No matter how old data is we need to know the source of the data. (May meeting. **Goward/Gabrynowicz**)
4. Name and number of NIMA contact – Jill Kieswetter, 301-227-3046 (November 1, Green - **Completed**) Contact NIMA rep. (November 15, **Holm**)
5. Report on the funding process for the data grant. Include telecon information from subgroup meeting. (December 1, **Holm**)
6. For data grant, define wording for the Federal Register by the next meeting. (December 1, **Holm**)
7. Look at other areas and items for data grant possibilities and continue subgroup meetings. (**Gabrynowicz, Green, Crowsey, Holm, Faundeen**)
8. Check on the contact specifics for AmericaView and report to data grant subgroup. (November 15, **Bender**)
9. Look at the outreach list and decide what EDC can do and what it cannot do by December 15. Report to AAC. (May meeting. **Dubno/ Nelson/ Holm/ Faundeen**)
10. Email AAC with request to forward outreach opportunities. (December 1, refresher February 2, **Nelson**)
11. DART slides & spreadsheet to AAC. (Faundeen - **Completed**)
12. Compare “Bits of Power” with EDC numbers from 1997 to 2005. (December 1, Holm/Faundeen – **Completed**)
13. Radarsat acquisition priority plan to AAC members. (December 1, Shaw - **Completed**)

14. Capture information on the multi-tier archive and discuss resolution (spectral, spatial, temporal, and radiometric). (May meeting. **Goward/Holm**)
15. Review LTAP (Williams to send out), CCRS plan and Bromley Policy. Review for 2 months and send suggestions to Goward. (March 30, **All**)
16. Provide a 1 to 2-page document on problems experienced with global data purchases (Landsat only). (January 1, **Green, Winokur**)
17. Value of ground stations from international perspective. (January 1, **Shaw to Doorn**)
18. Draft declaration statement on value of ground stations for Archive. (February 2, **Gabrynowicz**)
19. Provide presentation to the LPDAAC Science Advisory Panel (SAP) on the NASA Version 0 Data Sets slated for transfer to the USGS LTA. Provide AAC with a report on reaction of the SAP to the presentation. (May meeting. **Faundeen**) Provide the date of next LPDAAC Science Advisory Panel meeting to AAC. (As occurs. **Williams**)
20. Information letter to the LPDAAC Science Advisory Panel concerning data sieve subgroup activities. (December 15, **Goward**)
21. All of AAC read the restricted data access paper. Draft a statement for the Committee about access. (May meeting. **Dubno, Gabrynowicz, Holm**)
22. Copy of Executive Summary on Data Pricing Policy with copy of slides to AAC members. (December 1, **Holm**)
23. Find where USGS data policy (70 pages) is located. (December 1, **Holm**)
24. Retention Life Cycle Subgroup: Satterlee, Frelk, Winokur. **Faundeen** to prepare RBV materials and send to subgroup. (February 1)
25. Human Space Flight Subgroup: **Bender**, Chair; **Budge; Green; Dubno**. JSC has an extensive collection of images of the Earth. Subgroup to check with JSC and see if they are the primary contractor and if it is accessible data. Joanne will provide the subgroup with a contact name (Glenn Swanson). Data include Skylab, Gemini, Apollo, Shuttle Hand-Held, and Large Format Camera (LFC). (January 1)
26. Information briefing on Y2K plan and Continuity of Operations Plan. Share concerns and places where there are weaknesses. Agenda item at May meeting. (**Faundeen**)

27. Copy of Shared Resources Document/Plan between the Navy, NOAA, and AF. (January 1, **Winokur**)
28. Provide results of media trade study. Agenda item at May meeting. (**Faundeen**)
29. Consensus was that the Committee supports the concept for the affiliated archive for food security and should as a Committee send a letter. Include statement of careful consideration. (November 7, Doorn/Holm to send information to Gabrynowicz. February 1, Gabrynowicz and Budge to write letter. - **Completed**)
30. USGS to coordinate interagency briefings on AAC. **Gabrynowicz and Winokur** to assist USGS (**Holm, Faundeen**) in how to go about this. (This could occur at the next AAC meeting.)

Recommendations

RECOMMENDATION: Encourage the subgroup's exploration of reciprocal archiving of Landsat and other relevant data sets with the CCRS and report back the pros and cons of the assessment. Unanimously accepted.

RECOMMENDATION: With regard to archiving data from medium resolution non-U.S. satellite systems, it is recommended that NSLRSDA focus its time and energy on looking at imagery for areas of limited acquisition (including cloudy), and then ingest those images that would "fill" known holes in the TM/ETM+ archive. Unanimously passed.

RECOMMENDATION: To help the Archive prioritize acquisition of Landsat data not currently in the Archive, AAC advises the NSLRSDA to characterize the International Ground Stations and their Landsat holdings in terms of the political, cost and/or technical barriers to acquisition.